

REMARKS

The present Office Action rejects claims 1-27 in view of the prior art. Applicant amends claims 1, 11, 22-24 and 27 and respectfully traverses the rejections of claims 1-27 as explained below.

By this office action, Applicant amends independent claims 1, 11, 24 and 27. As amended, the independent claims include a semaphore unit as described in the specification and in the related copending application titled "Multiprocessor Communication System and Method," Serial No. 09/847,976. The semaphore unit adds a variety of innovative aspects to the claimed apparatus and systems. Included in these aspects, is the implementation of hardware prioritization wherein a processor with priority access has "zero-wait" access in that it can access a shared resource at any time. None of the prior art cited provides the use of such a semaphore unit and therefore each of the amended independent claims includes matter that is patentably distinct from the prior art. All of the remaining claims are dependent on the amended independent claims 1, 11, 24 and 27, 1 and are therefore also patentable at least as a consequence of this.

However, for completeness, regarding the other rejections of the Examiner, Applicant restates the arguments presented in the prior response filed June 30, 2004 (incorporated herein by reference). Applicant specifically notes that the present application provides prioritized access to high speed peripherals, whereas the prior art discloses crossbar switches for sharing a plurality of peripherals and memory.

The cited prior art utilizes the crossbar to accelerate the apparent memory access performance by interlacing the memory banks and pipelining the memory access cycles stages. In contrast, the present invention utilizes the circuit switched crossbar architecture to uniquely

accommodate slow speed peripherals in the midst of high speed memory devices to improve overall system performance and efficiency where both slow and fast devices must coexist within a super integrated system-on-chip application. Applicant believes this concept is unique and non-obvious in view of the prior art. Consequently, Applicant believes this concept is novel and non-obvious.

CONCLUSION

All objections and rejections having been addressed, and in view of the foregoing, the claims are believed to be in form for allowance, and such action is hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, he or she is kindly requested to contact the undersigned at the telephone number listed below..

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Respectfully submitted



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